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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,566	12/14/2001	Edward A. Lygas	50L2056.01	9814

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SONY ELECTRONICS INC.
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EXAMINER	
MILORD, MARCEAU	
ART UNIT	**PAPER NUMBER**
2682	

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/020,566	LYGAS, EDWARD A.	
	Examiner	Art Unit	
	Marceau Milord	2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6, 8-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hedayatnia et al (5,488,351) in view of Osborn et al (6119022) and Kitami et al (5,861,704).

Regarding claim 1, Hedayatnia et al discloses an apparatus for notifying a user (fig. 1), comprising: a first cylindrical transducer adapted to generate a first acoustic field having a first frequency (col. 1 lines 39-55, col- 2 lines 18-20, col. 3 lines 7-11); a first frequency generator (32 of fig. 1) coupled with said first cylindrical transducer (col. 1 lines 39-55, col. 2 lines 18-20, col. 3 lines 7 -11); and a second frequency generator coupled with said cylindrical transducer, said first and second acoustic fields are proximate to a user's tissue, and exhibit an overlapping portion within the user's tissue with said overlapping portion generating a vibrational sensation inside the user's tissue; and whereby said vibrational sensation results from difference frequency generated in the user's tissue by said overlapping portion within the user's tissue of said first and

second acoustic fields (col. 1 lines 40- 55, col. 2 lines 18-20, col. 2 lines 32-37, col. 3 line 7 - col. 4 line 9).

However, Hedayatnia does not specifically disclose a second cylindrical transducer positioned coaxially to said first cylindrical transducer and adapted to generate a second acoustic field having a second frequency not equal to said first frequency.

Hedayatnia does not explicitly show the first and second transducer to be cylindrical.

On the other hand, Osborn et al, from the same field of endeavor, discloses an incoming call alert system for use with a portable communication device, which includes an accessory unit physically separate from the portable communication device for providing an alerting signal. The circuitry includes an interface for maintaining and terminating the electrical connection between the first unit and the system bus connector fo the cellular telephone, a transceiver for transmitting and receiving messages over a wireless link to and from a second unit, and control logic for monitoring receipt of an incoming call by the cellular telephone and activating the transceiver to transmit a ring command in response thereto (col. 19- col. 5, line 36). The second unit includes a transceiver, a transducer that provides the alerting signal upon activation, and control circuitry for activating the transducer upon receipt of the ring command message from the first unit transceiver via the wireless link (col. 2, line 18- col. 3, line 54; col. 7, lines 9- 53).

However, Kitami clearly discloses that by using rectangular bodies for electrodes allows for the electrodes to be easily chipped (col. 3 lines 8-37). Kitami also discloses that another problem with planar electrodes is that noises are produced in the audible range, which poses a problem in putting a planar electrode into use (col. 3 lines 38-60). Kitami solves these problems by using a cylindrical electrode (entire disclosure), which prevents chipping at the edges of the

electrode body (col. 4 lines 39-47). Kitami also discloses that by using a cylindrical electrode ensures that noises are prevented from being produced in audible frequency range thereby eliminating additional hardware and filtering techniques needed to remove unwanted oscillations of the electrode (col. 4 lines 48-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Kitami to the modified system of Osborn and Hedayatnia in order to replace the planar electrodes as taught by Hedayatnia with cylindrical transducer as taught by Kitami for the benefit of eliminating noises in the audible range thus providing for vibrational sensations that are free of audible noises.

Regarding claim 2, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said notification apparatus is positioned within a cellular telephone (col. 4, lines 57-61).

Regarding claim 3, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said notification apparatus is positioned within a portable telephone ((col. 4, lines 57-61).

Regarding claim 4, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said notification apparatus is positioned within a beeper (col. 4, lines 57-61).

Regarding claim 6, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said notification apparatus is coupled with an alarm clock (col. 2, lines 1-13).

Regarding claim 8, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said first and second frequencies are different (col. 1, lines 40-55).

Regarding claim 9, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said first and second frequencies differ by an amount between 10 and 100 cycles (col. 2, lines 18-20).

Regarding claim 10, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said first and second frequency generators are of the switched type (col. 2, lines 26-28).

Regarding claim 11, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said first and second frequency generators are digitally controlled and current limited (col. 3, lines 7-10).

Regarding claim 12, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said first and second cylindrical transducers are each formed of a single element (col. 3, lines 26-27).

Regarding claim 13, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1), wherein said first and second cylindrical transducers are each formed of a plurality of individual elements (col. 3, lines 26-27).

Regarding claim 14, Hedayatnia et al discloses an apparatus for notifying a user (fig. 1) of an incoming cellular telephone call, comprising: a cellular telephone body having at least a back surface; a first transducer positioned within said cellular telephone body perpendicular to said back surface and adapted to generate a first acoustic field (col. 1 lines 39-55, col- 2 lines 18-20, col. 3 lines 7-11); a first frequency generator coupled with said first transducer to drive said first transducer to generate said first acoustic field in response to an indication that an incoming cellular telephone call has been received (col. 1 lines 39-55, col. 2 lines 18-20, col. 3

lines 7 -11), said first and second acoustic fields exhibiting an overlapping portion within the user's tissue with said overlapping portion generating a vibrational sensation in the user's tissue, thereby indicating to the user that an incoming cellular telephone call has been received (col. 1 lines 40- 55, col. 2 lines 18-20, col. 2 lines 32-37, col. 3 line 7 - col. 4 line 9).

However, Hedayatnia does not specifically disclose a second transducer positioned coaxially to said first transducer and adapted to generate a second acoustic field; and a second frequency generator coupled with said second transducer to drive said second transducer to generate said second acoustic field in response to an indication that an incoming cellular telephone call has been received; and whereby said vibrational sensation is generated by a difference of frequency generated in said overlapping portion of said first and second acoustic fields wherein said difference of frequency being more than a threshold difference of frequency so as to generate the vibration sensation at said user's tissue

On the other hand, Osborn et al, from the same field of endeavor, discloses an incoming call alert system for use with a portable communication device, which includes an accessory unit physically separate from the portable communication device for providing an alerting signal. The circuitry includes an interface for maintaining and terminating the electrical connection between the first unit and the system bus connector fo the cellular telephone, a transceiver for transmitting and receiving messages over a wireless link to and from a second unit, and control logic for monitoring receipt of an incoming call by the cellular telephone and activating the transceiver to transmit a ring command in response thereto (col. 19- col. 5, line 36). The second unit includes a transceiver, a transducer that provides the alerting signal upon activation, and control circuitry

for activating the transducer upon receipt of the ring command message from the first unit transceiver via the wireless link (col. 2, line 18- col. 3, line 54; col. 7, lines 9- 53).

However, Kitami clearly discloses that by using rectangular bodies for electrodes allows for the electrodes to be easily chipped (col. 3 lines 8-37). Kitami also discloses that another problem with planar electrodes is that noises are produced in the audible range, which poses a problem in putting a planar electrode into use (col. 3 lines 38-60). Kitami solves these problems by using a cylindrical electrode (entire disclosure), which prevents chipping at the edges of the electrode body (col. 4 lines 39-47). Kitami also discloses that by using a cylindrical electrode ensures that noises are prevented from being produced in audible frequency range thereby eliminating additional hardware and filtering techniques needed to remove unwanted oscillations of the electrode (col. 4 lines 48-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Kitami to the modified system of Osborn and Hedayatnia in order to replace the planar electrodes as taught by Hedayatnia with cylindrical transducer as taught by Kitami for the benefit of eliminating noises in the audible range thus providing for vibrational sensations that are free of audible noises.

Regarding claim 15, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1) of an incoming cellular telephone call, wherein said first and second frequencies are different (col. 1, lines 40-55).

Regarding claim 16, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1) of an incoming cellular telephone call, wherein said first and second frequencies differ by an amount between 10 and 100 cycles (col. 2, lines 18-20).

Regarding claim 17, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1) of an incoming cellular telephone call, wherein said first and second frequency generators are of the switched type (col. 2, lines 26-28).

Regarding claim 18, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1) of an incoming cellular telephone call, wherein said first and second frequency generators are digitally controlled and current limited (col. 3, lines 7-10).

Regarding claim 19, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1) of an incoming cellular telephone call, wherein said first and second transducers are each formed of a single element (col. 3, lines 26-27).

Regarding claim 20, Hedayatnia et al as modified discloses an apparatus for notifying a user (fig. 1) of an incoming cellular telephone call, wherein said first and second transducers are each formed of a plurality of individual elements (col. 3, lines 26-27).

Regarding claim 21, Hedayatnia et al discloses a method for notifying a user of an incoming cellular telephone call (fig. 1), comprising the steps of: providing a first transducer positioned within a cellular telephone body perpendicular to a back surface thereof; driving said first transducer to generate a first acoustic field in response to an indication that an incoming cellular telephone call has been received (col. 1 lines 39-55, col- 2 lines 18-20, col. 3 lines 7-11); providing a second transducer positioned coaxially to said first transducer; driving said second transducer to generate a second acoustic field in response to an indication that an incoming cellular telephone call has been received, said first and second acoustic fields overlapping (col. 1 lines 39-55, col. 2 lines 18-20, col. 3 lines 7 -11); and generating a vibrational sensation in or at the surface of a user's tissue when said overlapping fields overlap the user's tissue, thereby

indicating to a user by a physical sensation on said user's tissue, that an incoming cellular-telephone call has been received (col. 1 lines 40- 55, col. 2 lines 18-20, col. 2 lines 32-37, col. 3 line 7 - col. 4 line 9).

However, Hedayatnia does not specifically disclose the steps of providing a second transducer positioned coaxially to said first transducer; driving said second transducer to generate a second acoustic field in response to an indication that an incoming cellular telephone call has been received; whereby said vibrational sensation is generated only in accordance with a difference of frequency generated in said overlapping portion by said first and second acoustic fields wherein said difference of frequency being a substantial difference of frequencies generated from not equal frequencies from the first and second transducers.

On the other hand, Osborn et al, from the same field of endeavor, discloses an incoming call alert system for use with a portable communication device, which includes an accessory unit physically separate from the portable communication device for providing an alerting signal. The circuitry includes an interface for maintaining and terminating the electrical connection between the first unit and the system bus connector fo the cellular telephone, a transceiver for transmitting and receiving messages over a wireless link to and from a second unit, and control logic for monitoring receipt of an incoming call by the cellular telephone and activating the transceiver to transmit a ring command in response thereto (col. 19- col. 5, line 36). The second unit includes a transceiver, a transducer that provides the alerting signal upon activation, and control circuitry for activating the transducer upon receipt of the ring command message from the first unit transceiver via the wireless link (col. 2, line 18- col. 3, line 54; col. 7, lines 9- 53).

However, Kitami clearly discloses that by using rectangular bodies for electrodes allows for the electrodes to be easily chipped (col. 3 lines 8-37). Kitami also discloses that another problem with planar electrodes is that noises are produced in the audible range, which poses a problem in putting a planar electrode into use (col. 3 lines 38-60). Kitami solves these problems by using a cylindrical electrode (entire disclosure), which prevents chipping at the edges of the electrode body (col. 4 lines 39-47). Kitami also discloses that by using a cylindrical electrode ensures that noises are prevented from being produced in audible frequency range thereby eliminating additional hardware and filtering techniques needed to remove unwanted oscillations of the electrode (col. 4 lines 48-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Kitami to the modified system of Osborn and Hedayatnia in order to replace the planar electrodes as taught by Hedayatnia with cylindrical transducer as taught by Kitami for the benefit of eliminating noises in the audible range thus providing for vibrational sensations that are free of audible noises.

Regarding claim 22, Hedayatnia et al as modified discloses a method for notifying a user of an incoming cellular telephone call (fig. 1), wherein said first and second frequencies are different (col. 1, lines 40-55).

Regarding claim 23, Hedayatnia et al as modified discloses a method for notifying a user of an incoming cellular telephone call (fig. 1), wherein said first and second frequencies differ by an amount between 10 and 100 cycles (col. 2, lines 18-20).

Regarding claim 24, Hedayatnia et al as modified discloses a method for notifying a user of an incoming cellular telephone call (fig. 1), further comprising the steps of: driving said first

transducer with a first frequency driver; and driving said second transducer with a second frequency driver (col. 4, lines 10-56).

Regarding claim 25, Hedayatnia et al as modified discloses a method for notifying a user of an incoming cellular telephone call (fig. 1), wherein said first and second frequency drivers are of the switched type (col. 2, lines 26-28).

Regarding claim 26, Hedayatnia et al as modified discloses a method for notifying a user of an incoming cellular telephone call (fig. 1), wherein said first and second frequency drivers are digitally controlled and current limited (col. 3, lines 7-10).

Regarding claim 27, Hedayatnia et al as modified discloses a method for notifying a user of an incoming cellular telephone call (fig. 1), further comprising the step of forming each of said first and second transducer of a single element (col. 3, lines 26-27).

Regarding claim 28, Hedayatnia et al as modified discloses a method for notifying a user of an incoming cellular telephone call (fig. 1), further comprising the step of forming each of said first and second transducer of a plurality of individual elements (col. 3, lines 26-27).

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hedayatnia et al (5,488,351) in view of Osborn et al (6119022) and Kitami et al (5,861,704) as applied to claim 1 above, and further in view of Lo et al (5,973441).

Hedayatnia fails to show an apparatus for notifying the user wherein the apparatus is positioned within a danger notification apparatus. Hedayatnia clearly discloses that the notification apparatus generates vibratory alarm signals (col. 2 lines 1-16) in response to a received signal. Hedayatnia also discloses that the apparatus may generate other alarm functions (col. 2 lines 1 3-15).

However, Lo discloses an effective apparatus that provides the user with tactile sensations by using multiple rings or plates that create a mild thumping sensation on the skin and surrounding tissue (col. 3 lines 34-42) by utilizing the electrodes in a unique vibratory mode (entire disclosure) that is highly effective in penetrating layers of clothing (col. 4 lines 7-11). Lo clearly discloses that the apparatus may be used within danger notification apparatus (col. 1 lines 21-42) when visual and audible aids are rendered useless. Therefore, it would have been obvious for any one of ordinary skill in the art at the time of the invention to modify the alarm mode as taught by Hedayatnia to incorporate a danger notification mode as taught by Lo for the benefit of providing the user with a mild thumping sensation on the skin and surrounding tissue when visual and audible aids are rendered useless as taught by Lo

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hedayatnia et al (5,488,351) in view of Osborn et al (6119022) and Kitami et al (5,861,704) as applied to claims 1 and 6 above, and further in view of Hajel (5,867,105).

Hedayatnia fails to show an apparatus for notifying a user wherein the apparatus is positioned within a mattress.

However, Hajel shows that smoke detectors of various designs are old and well known but are for all intents and purposes satisfactory to people with normal hearing (col. 1 lines 1-25). The many hearing impaired cannot hear the audible alarm generated by the known and widely used smoke detectors and where smoke from a fire is detected, the hearing impaired may not realize the danger they would be in and may suffer serious injuries or death (col. 1 lines 26-34). Hajel discloses that the alarm unit may be attached to a bed or chair so as to cause the bed or chair to vibrate notifying the user of the existence of smoke or fire (col. 3 lines 1-15). Therefore,

It would have been obvious to any one of ordinary skill in the art at the time of the invention to modify the alert device of Hedayatnia to incorporate the alarm device into a bed as taught by Hajel for the benefit generating an alarm signal (i.e. shaking the bed) discernible to the hearing impaired when smoke or fire is detected.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lygas US Patent No 6240176 B1 discloses a vibrating device for alerting a phone user of an incoming call that includes a receiver of an electric signal representing the incoming signal.

Osborn et al US Patent No 6119022 discloses a system for alerting portable communication device user of incoming call.

Henriksson US Patent No 5845219 discloses a mobile station having priority call alerting function during silent service mode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 703-306-3023. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARCEAU MILORD

Marceau Milord
Examiner
Art Unit 2682

MARCEAU MILORD
PRIMARY EXAMINER